

REMARKS/ARGUMENTS

Claims 2-3 and 5-13 are now in the application. Claims 1 and 4 have been canceled without prejudice. Applicants reserve the right to file a continuation application with claims containing all or some of the subject matter in these canceled claims. Claim 3 has been amended to remove an unnecessary word, "images", and to correct a spelling error, "hypotheses"; claims 5-8 have been amended so as to be dependent from claim 2 rather than claim 1.

Response to Examiner's Position

In the Office Action mailed 7/14/04, the examiner acknowledges the differences between the Plessis reference and the invention, but asserts that the differences are not included in the claims. Particularly, the examiner asserts that the input filter on page 644 of the Plessis reference uses the holistic method for analytical segmentation. This is not what Plessis describes. All the Plessis input filter does is filter the reference lexicon so that the analytic recognition in Plessis is working from a limited set of reference words, "filtered lexicon" -- those recognized by holistic recognition. See following quote from p. 644 of Plessis reference:

"Therefore, if a word can not be well segmented, processing it through the analytical algorithms will not decide which word from a holistic filtered list of word solutions is the best one."

The manner in which the claim language in remaining independent claims 2 and 3 distinguishes over Plessis will be described below.

Claim Rejections – 35 U.S.C. § 102

Claims 1-6 and 8-12 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Plessis et al., "A multi-classifier combination strategy for the recognition of Handwritten Cursive Words," Document Analysis and Recognition, 1993 (hereinafter the Plessis reference).

Present Invention Differs From Plessis Reference:

As stated in previous amendment, each of the independent claims remaining in the application distinguish over the Plessis reference for at least the following reasons. Plessis does

not generate character segmentation information in the holistic recognition engine. Further, Plessis does not use the character segmentation information from the holistic recognition engine to segment characters in the input string for processing by the analytic recognition engine. This combination of operations is a very significant difference as the weakness of analytic recognition is segmentation. Thus, the segmentation information from the holistic recognition can greatly enhance recognition by the analytic recognition engine. This in turn enhances the likelihood that a best answer is found in the answers from both engines.

Differences are Reflected In the Claims:

Of the claims rejected under 35 USC 102(b) claims 2, 3, 5, 6 and 8-12 are now in the application.

In method claim 2, the claim calls for an act of "constructing a character segmented features list from the features of the input phrase and from the holistic answer list, the character segmented features list being a list of character feature sets segmented by characters in each answer from the holistic answer list". Plessis clearly does not teach generation of such a segmented features lists. Plessis simply filters or limits the original lexicon to words in a holistic answer list.

Further, claim 2 calls for an act of "translating the image of the input phrase into images of characters segmented according to answers in the holistic answer list based upon the character segmented features list". Plessis clearly does not teach translating the input phrase into character images based on a segmented features list.

Also the character images thus segmented are matched by the act of "analytically recognizing characters in the input phrase from the images of characters segmented according to answers in the holistic answer list". Plessis clearly does not teach analytically recognizing characters segmented according to the answers in the holistic answer list.

Thus, there are at least three functions in claim 2 not described by Plessis, claim 2 should be allowed. Further, claims 5, 6, 7-9 depend from claim 2 and should be allowed for the same reasons that claim 2 should be allowed.

Method claim 3 recites an act of "creating a plurality of character segmentation hypotheses based on character segmented metastrokes for answers in the first recognition answer

list". Further the first answer list was generated by comparing as a whole the input string of metastrokes to a prototype string of metastrokes. Clearly the character segmentation hypotheses are created from a holistic recognition operation. Also clearly, the holistic recognition operation in Plessis does not create segmentation hypothesis. Plessis only filters the lexicon to provide fewer reference words.

Further, claim 3 calls for an act of "translating each segmentation hypothesis into character cutout images of the input word". Plessis does not describe using the segmentation hypothesis from holistic recognition to provide character cutout images.

Also, claim 3 calls for acts of "recognizing characters from the character cutout images and generating a plurality of character variants for each character position in the input word based on each segmentation hypothesis". Plessis does not describe use of a segmentation hypothesis from the holistic recognition operation for generating a plurality of character variants for each character position in the input word.

For at least the reasons discussed above, claim 3 should be allowed. Further, claims 10-13 depend from claim 3 and should be allowed for the same reasons that claim 3 should be allowed.

Claim Rejections – 35 U.S.C. § 103

Claims 7 and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Plessis et al.

Claims 7 and 13 should be allowed because the Plessis reference does not disclose, as discussed above, the combination of elements in independent claims 2 and 3.

Conclusion

As all claims now in the application are in condition for allowance, Applicants request the application be allowed and pass to issuance as soon as possible.

Application No. 09/788,032

It is believe that no further fees are due with this Response. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

Respectfully submitted,

Dated: Sept. 1, 2004



Homer L. Knearl
Homer L. Knearl Reg. No. 21,197
Merchant & Gould P.C.
PO Box 2903
Minneapolis, MN 55402-0903
(303) 357-1670